



SPACE SHUTTLE PROGRAM
Space Shuttle Vehicle Engineering Office
NASA Johnson Space Center, Houston, Texas



STS-109

FLIGHT READINESS REVIEW

FERRY READINESS

February 14, 2002



STS-109 Flight Readiness Review Ferry Readiness

Presenter **Don L. McCormack, Jr.**

Date **Feb 14, 2002**

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Ferry Plan Summary

- Ferry Planning Readiness Review conducted on 2/7/02 with no issues identified
- Ferry Flight Readiness Review to be conducted one day prior to planned ferry date
- Hardware summary:
 - Orbiter: OV-102 (Columbia)
 - NEOM ferry weight (lbs): 221806 (no fluids off-loaded)
 - NEOM ferry center of gravity (in): X_o 1115.7 Y_o -0.7 Z_o 372.3
 - » NEOM mass properties are within specified limits – requires 930 lb of Orbiter middeck ballast (ballast kit available at DFRC)
 - Attach hardware and ferry plugs are ready to support
 - UTPA vent assembly mod not complete – will ferry without the vent assemblies
 - Tailcone 2 ready to support
 - Shuttle Carrier Aircraft (SCA): NASA 905
- Configuration drawings have been released



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Ferry Plan Summary - Continued

- **DFRC seven day turnaround with ready-to-ferry on day seven (mid-day)**
 - **Most likely departure will be morning of day eight**
- **Flight plan – at least 3-flight legs over a 2-day period will be required to complete the ferry flight:**
 - Day 1: Flight legs 1 and 2 (refuel stop and refuel/rest overnight stop)**
 - Day 2: Flight leg 3 (arrival at KSC SLF)**
- **Prime landing sites, weather alternates and emergency landing fields selected**
- **Pathfinder: USAF C-141 or C-17 (purge equipment required)**
- **Purge – purge equipment will be deployed due to potential low temperatures at ferry overnight stop locations**
 - **Purge circuit 1 (OMS/RCS – ambient air temperature below 45 °F)**
 - **Purge circuit 2 (not required)**



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STS-109 FERRY READINESS STATEMENT

A Ferry Planning Readiness Review was conducted in accordance with the Space Shuttle Vehicle Engineering Office flight preparation process plan contained in NSTS 08117, Requirements and Procedures for Certification of Flight Readiness. This certifies that aircraft, equipment, and ferry requirements are ready to support Orbiter ferry operations.

**Don L. McCormack, Jr.
MV/Manager, Ferry Operations**